



First record of the Paint-billed Crane, *Mustelirallus erythrops* (Sclater, 1867) (Aves, Rallidae), in Leticia, Amazonas, Colombia

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Abstract

We present the first record of Paint-billed Crane, *Mustelirallus erythrops* (Sclater 1867), for Amazonas, Colombia. We observed six individuals in water channels at the Leticia airport, in Amazonas department, while monitoring the avifauna associated with the airport. Our photographs and recordings represent the first record of the species in the Amazon region in Colombia, and the first documented record of the species in all western Amazonia.

Keywords

Distribution extension, airport, bird hazard, Amazonia.

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Introduction

The Paint-billed Crane, *Mustelirallus erythrops* (Sclater 1867), is one of the 29 species of rallids found in Colombia (Avendaño et al. 2017; Ayerbe-Quiñones 2018; McMullan et al. 2018). *Mustelirallus*, formerly *Neocrex* (Remsen et al. 2019), encompasses, in Colombia, three small to medium sized species (18–23 cm) which are among the most difficult to observe and of the least known of this cosmopolitan bird family (Restall et al. 2006a; McMullan et al. 2018; Taylor et al. 2020; eBird 2020). They inhabit pastures and swamp borders, including rice fields, where they almost never go outside cover, and when they do so they rapidly hide when sense danger (Ayerbe-Quiñones 2018).

Its distribution extends from the United States to Argentina in South America, but in an irregular range, that includes patches in several countries (Arnold 1978;

Hilty and Brow 1986; Camperi 1992; Taylor 1998; Watson and Benz 1999; De la Peña 2002; Bertin et al. 2017; Quiroga 2017; Taylor et al. 2020; GBIF 2020). In South America, this bird has been recorded off the coasts of Venezuela, Guyana, Suriname, French Guiana, and the Pacific coasts of Peru and Ecuador (eBird 2020). Other records indicate that this bird is found in the Peruvian Andes (Schulemberg et al. 2010) as far as Chile and extending to Paraguay and in some scattered patches in Belem de Pará, Brazil (Taylor et al. 2020). There is also an unpublished record in Xenocanto (<https://www.xenocanto.org/>) from Palmari Natural Reserve in Brazil very near its border with Colombia in Leticia.

In Colombia, its distribution is also patchy and scattered in a few localities principally at or near the Andes. It includes small areas around Bogotá and in Boyacá, in

the Andes between 2,600 and 3,100 m a.s.l. in Lago de Tota (Moncaleano-Niño and Calvachi-Zambrano 2009; Zuluaga-Bonilla and Macana-García 2016). To the east it has been reported towards the lowland plains of the llanos in Meta (Ayerbe-Quiñones 2018; MacMullan et al. 2018), and, to the south-east, there are records in Huila near the city of Pitalito and in Putumayo in the road that connects Mocoa with Puerto Asís (eBird 2020; GBIF 2020) (Fig. 1). However, according to distribution extrapolation it could also be found southeast in Nariño and Caquetá (McMullan et al. 2018), and there is an uncertain report from Colombia's Amazonia in Vaupés from a museum specimen without collection data (Oliveras 1964; Carrillo Chica et al. 2018).

Methods

We recorded *Mustelirallus erythropus* while monitoring the avifauna as part of the Bird Hazard Prevention Program of Alfredo Vásquez Cobos International Airport, in Leticia. This city is the capital of Amazonas department, in the southernmost corner of Colombia at an altitude of 90 m a.s.l. with a mean annual temperature of 26 °C (Fig. 1). Since January 2016, we have been monthly monitoring the avifauna within the airport by doing point counts and observation transects. On 17 June 2016, while doing observations on the safety zone surrounding the runway, we saw for the first time one individual of *M. erythropus* in a rainwater channel. Since then, we made periodic observations in this same area, taking notes regarding number of individuals, hours of daily activity, reproduction areas, and feeding sites among others. We used a SONY Cyber-shot™ DSC-H300 camera with a 35× optical zoom lens to photograph the species and record its vocalizations, and Audacity® 2.2 software to produce spectrograms of vocalizations.

Results

New records. Colombia • Amazonas; Municipality of Leticia, Alfredo Vásquez Cobos International Airport; 04°11'44"S, 069°56'34"W and 04°11'55"S, 069° 56'38"W; 27 °C; 96 m a.s.l.; 17 June 2016; 10:50 am; Arley Omar Gallardo Rico.

A single individual of *Mustelirallus erythropus* was observed and photographed while feeding in a rainwater channel of the main airport platform (Fig. 2). Then, the species disappeared from the airport for over a year and a half. On 23 February 2018, we observed other individuals in another rainwater channel 200 meters away from the site where the first record was made. This channel is 200 m long and 40 cm wide and surrounded by the grasses *Panicum* spp. and *Cynodon* spp., making it a suitable habitat for the species. From 26 February to 29 June 2018, every two days, we went to the site and made observations of this species from 6:00 to 8:00 am and from 4:30 to 6:30 pm.

Identification. *Mustelirallus erythropus* is a small crane of approximately 20 cm, weighing 43–70 g, with gray underparts, olive-brown back, and black and white barred belly and underwing converts which can be difficult to see in the field. It can be distinguished from other species of the genus by its bicolor beak, with a red base and yellow tip, and its pink legs (Restall et al. 2006b). It is similar to the sympatric Gray-breasted Crane, *Lateralus exilis* (Temminck, 1831), which can be differentiated by its dusky green bill, cinnamon nape, and dusky yellow legs (Del Hoyo et al. 1996; Taylor et al. 2020).

The shy and furtive character of *M. erythropus*, and the fact that it did not vocalize when we were nearby, made it difficult to photograph and record its vocalizations. However, over time it became somewhat used to us, so we were able to photograph some individuals at a short distance (ca 3 m) and record an adult vocalizing

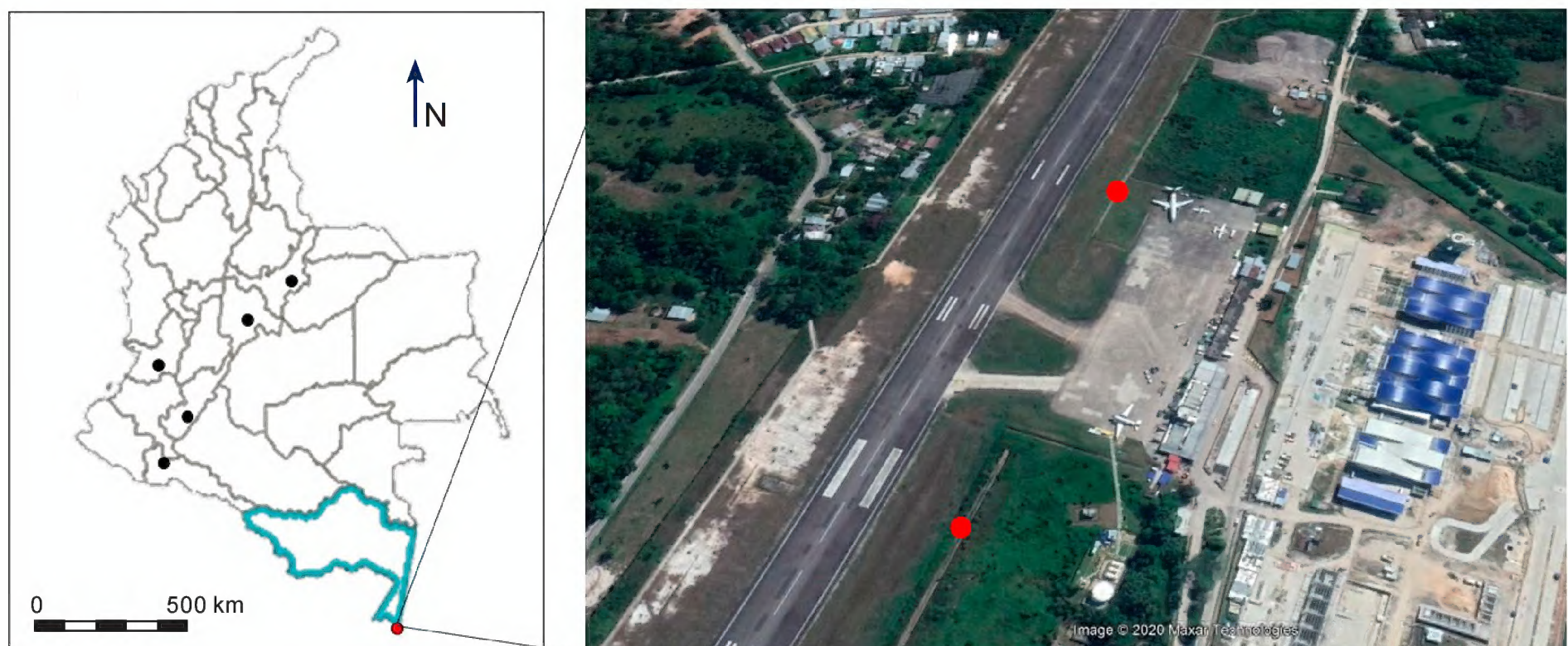


Figure 1. Location map of *Mustelirallus erythropus* in Colombia. To the left, black points show the approximate locations where the species had previously been reported in Colombia (eBird 2020; GBIF 2020), and the red point shows our report at Alfredo Vásquez Cobo International Airport in Leticia, Amazonas, Colombia. To the right, there is a satellite image of the airport, in which red circles represent the exact locations of our observations in this study.

from one of the “entrances” to the reproductive/roosting areas. We compared our recordings (XC531603) to those of the same species from XenoCanto (<https://www.xeno-canto.org/>) and eBird (<https://ebird.org/media/catalog?taxonCode=pabcra&mediaType=a&q=Polluela%20picopinta%20-%20Mustelirallus%20erythrops>) in other Amazonian and non Amazonian locations, and found no differences among them.

Discussion

Between 26 February and 29 June 2018, we recorded six individuals of *Mustelirallus erythrops* in two different rainwater channels located near the Leticia airport’s north runway header. These were active in the morning and afternoon, but their highest peak of activity was between 5:00 and 5:45 pm when the dusk gives way to the night. Additionally, while doing an inspection we saw another individual in a rainwater channel 500 m away from the south runway header.

Along the rainwater channel, we registered *M. erythrops* solitary ($n = 6$), in pairs ($n = 3$), and in small family flocks of up to six individuals ($n = 5$). We also saw the Paint-billed Crake alongside individuals of other species while feeding on aquatic insects, and *Panicum* spp. and *Cynodon* spp. grass seeds that fell to the water because of the rain, wind or the action of aerial bird seedeaters. These included two Crakes: Gray-breasted Crake (*Laterallus exilis*) and Purple Gallinule (*Porphyrio martinicus*), which we saw feeding on the same resources, as well as almost all other birds that arrived in search of grass seed spikes and/or flying insects (Fig. 2).

Individuals of *M. erythrops* moved more frequently between the rainwater channel and the grasses

surrounding it at three points that we identified as possible “entrances” to reproductive or roosting sites (Fig. 3). As expected from this prediction, on May 16 we registered an adult in the company of two smaller individuals with dark gray plumage and no red beaks’ base that, according to Restall et al. (2006a), we identified as chicks of the species, which unfortunately we could not photograph. Afterwards, on May 27, we saw an adult entering grass cover through one of these entrances with a worm in its beak, which we assume he was taking to the nest to feed its nestlings.

The Paint-billed Crake is a skulking, secretive, furtive, and nervous bird, mainly associated with flooded grasslands where it almost never vocalizes or goes in the open, making it difficult to be observed and recorded (Hilty 2003; Restall et al. 2006a; eBird 2020). For the same reason, its distribution, from Nicaragua to Argentina, is little known and, in many cases, restricted to small scattered points in all the countries in which it has been recorded (Taylor et al. 2020).

This is the first documented and published record of the Paint-billed Crake in Colombia’s Amazonia. The closest report was in the department of Putumayo, more than 900 km away (Fig. 1). There is another non-confirmed report of the species around San José del Guaviare, in Guaviare department, close to our study area. However, in this case, our report would mean a distribution extension of near 810 km. In the western Amazon, *M. erythrops* has been recorded in Iquitos and the Ucayali and Madre de Dios rivers, Peru.

Our data confirm the presence of the Paint-billed Crake in Colombia’s Amazon region and provide evidence that supports that the Paint-billed Crake has a wider distribution than previously known. In Colombia,



Figure 2. *Mustelirallus erythrops* (Sclater 1816). **A, B.** Individuals in a rainwater channel parallel to the runway of the Alfredo Vásquez Cobo International Airport, in Leticia, Colombia: **(A)** June 2016 and **(B)** February 2018. **C, D.** Individuals feeding in the rainwater channel: next to **(C)** Gray-breasted Crake, *Laterallus exilis*, and **(D)** Ruddy Ground-Dove, *Columbina talpacoti*. **E, F.** Individuals feeding: **(E)** during the dry season, March 2018, and **(F)** during the rainy season, May 2018. Photographs by Arley Gallardo.

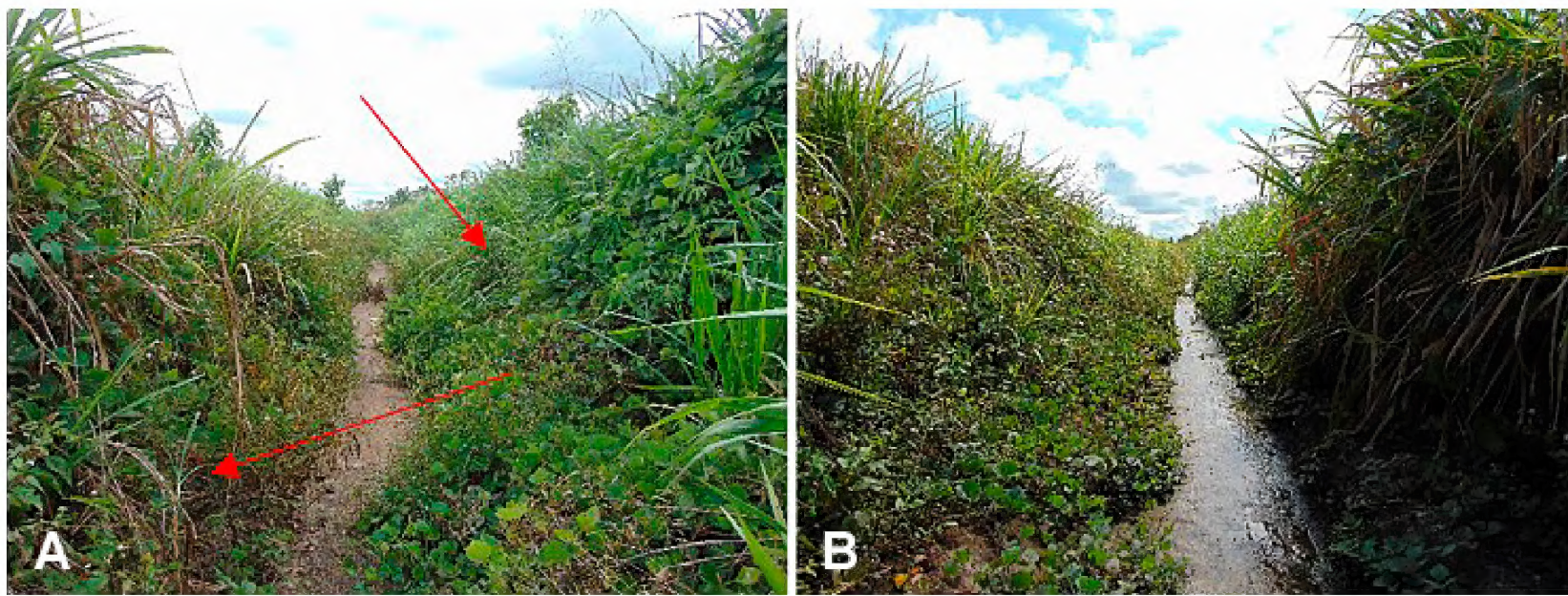


Figure 3. Rainwater channel of Alfredo Vásquez Cobo International Airport, in Leticia, Amazonas, Colombia, habitat of *Mustelirallus erythrops*. **A.** Marking of possible shelters and nesting of *M. erythrops* in the dry season. **B.** Channel in rainy season. Photographs by Arley Gallardo.

besides Vaupés (Carrillo-Chica et al. 2018), there could be included areas of other Amazonian departments: Caquetá, Guaviare, and Guainía, as suggested by McMullan et al. 2018, which could be initially tested by distribution models of the species. In Western Amazonia, its presence is probably in adjacent areas of Peru and in the western border of Brazil, in Amazonas state.

However, we stopped seeing *M. erythrops* for more than a year and a half, from June 2016 to February 2018, which suggests that in Colombia it undertakes seasonal migratory movements. These migrations have been reported in Venezuela (Hilty 2003), probably along its whole distribution (Restall et al. 2006a), and continue to be almost completely unknown. In our case, these could be between our study site and some Amazon tributaries, or the Andean foothill areas, in Meta. In terms of conservation, it is necessary to ensure a continuum of suitable habitats for the species from the Andes to the Amazon that, in Andean areas of Colombia's Amazonia, include some of the most threatened and patchy ecosystems of the region.

Additionally, we registered two chicks and an adult carrying food to the nest, which constitutes the first reproductive report of the Paint-billed Crake in Colombia and indicates that Leticia's airport may be an important breeding area for the species. Thus, internal controlled areas inside airports may play an essential role in offering habitat and breeding areas not only to the Paint-billed Crake but also to other of the more than 420 species reported in and around Amazonian airports in Colombia since the implementation of Avian Hazard Program (Carrillo-Chica et al. 2018).

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Authors' Contributions

AG made the original sightings and identified the species, AG and ECC wrote the text, ECC coordinated the bird-monitoring program at the airport, reviewed the text, and made the translation.

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